REMARKS

This is a full and timely response to the outstanding non-final Office Action mailed September 25, 2006. Reconsideration and allowance of the application and pending claims are respectfully requested.

I. Claim Rejections - 35 U.S.C. § 102(b)

Claims 1, 3-6, 8-11, 13-16, 18, 20-22, 25, and 29-32 have been rejected under 35 U.S.C. § 102(b) as being anticipated by *Suzuki, et al.* ("Suzuki," U.S. Pat. No. 6,134,667). Applicant respectfully traverses this rejection.

It is axiomatic that "[a]nticipation requires the disclosure in a single prior art reference of each element of the claim under consideration." *W. L. Gore & Associates, Inc. v. Garlock, Inc.,* 721 F.2d 1540, 1554, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983). Therefore, every claimed feature of the claimed invention must be represented in the applied reference to constitute a proper rejection under 35 U.S.C. § 102(b).

In the present case, not every feature of the claimed invention is represented in the Suzuki reference. Applicant discusses the Suzuki reference and Applicant's claims in the following.

A. The Suzuki Disclosure

Suzuki discloses a computer control system and a cooling control method. *Suzuki,* Patent Title. In the Suzuki system, temperature sensors A, B, and C are arranged "near" a CPU, hard disk drive (HDD), and a PC card controller. *Suzuki,* Abstract. As described in relation to Figure 1, the sensors A, B, and C are used to monitor the respective

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temperatures of a CPU 11, HDD 19, and PC card controller 20. *Suzuki*, column 3, lines 44-53.

In regard to the first embodiment shown in Figure 1, Suzuki states that the sensors A, B, and C detect temperatures "around" the CPU, HDD, and PC card controller. *Suzuki*, column 7, lines 62-64. In regard to the second embodiment, Suzuki states that the temperature sensors A, B, and C are "arranged in the vicinity of" the CPU, HDD, and PC card controller. *Suzuki*, column 12, lines 11-18. In regard to the third embodiment, no specific placement of temperature sensors A, B, and C is discussed.

Suzuki states that the temperatures measured by the sensors A, B, and C are monitored by the power supply controller 16. *Suzuki*, column 6, lines 17-27; Figure 1. Nothing else is described by Suzuki in terms of collecting data from the temperature sensors.

B. Applicant's Claims

As is noted above, Suzuki fails to teach several of Applicant's claim limitations. Applicant discusses some of those claim limitations in the following.

1. Claims 1, 3-6, 8-10, and 29

Applicant's claim 1 provides as follows (emphasis added):

1.   A method for cooling a storage device contained in a computer, the method comprising:

measuring the temperature of the storage device using a temperature sensor provided in or on the storage device in response to commands received by a storage device driver stored in memory of the computer; and

adjusting computer operation so as to reduce the temperature of the storage device if that temperature is deemed to be too high.

Suzuki fails to teach several of the limitations contained in independent claim 1. First, as discussed in previous Responses, Suzuki does not teach measuring the temperature of the storage device using a temperature sensor "provided in or on the storage device". Instead, as described above, Suzuki merely states that there is a temperature sensor B that is "near," "around," or "in the vicinity of" Suzuki's hard disk drive (HDD). Applicant notes that none of those terms qualify as describing an arrangement in which a sensor is provided "in or on" a storage device. To the contrary, those terms make it clear that the temperature sensor B is not in or on Suzuki's HDD. In view of that, Suzuki cannot be said to teach each and every limitation of claim 1.

As a second matter, Suzuki does not teach measuring a storage device's temperature "in response to commands received by a storage device driver stored in memory of the computer". As noted above, Suzuki's only description of control over the temperature sensors A, B, and C is provided in relation to Suzuki's power supply controller 16. As explicitly stated by Suzuki:

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The power supply controller 16 . . . monitors the temperatures of the CPU 11, HDD 19, and PC card controller 20 using temperature sensors A, B, and C.

Suzuki, column 6, lines 17-27. Applicant notes that Figure 1 also clearly shows the temperature sensors A, B, and C connected to, and only connected to, the power supply controller 16. Within the power supply controller 16 in Figure 1 is a box that identifies each of the temperature sensors A, B, and C. Given that it is the power supply controller that controls the temperature sensors A, B, and C, and further given that no other component in Suzuki's system is described as controlling or monitoring the temperature sensors A, B, and C, it follows that Suzuki does not teach measuring a storage device's temperature "in response to commands received by a storage device driver stored in memory of the computer". As a further point, Applicant notes that Suzuki does not even mention any "storage device driver" anywhere in the Suzuki reference.

In the Response to Arguments section of the Office Action, it is argued that Suzuki discloses a "storage device driver" at column 6, line 18. That line provides: "circuit to supply power supply voltages to the respective." Clearly, that line says nothing about a "storage device driver" or any component that acts in the capacity of such a driver.

In addition, it is argued in the Response to Arguments section that Suzuki discloses:

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a one-chip microcomputer controlling operation of the power supply controller, which reads the various temperature. The driver is interpreted as the software of the microcontroller that controls operation of the power supply controller.

Office Action, page 9, lines 12-15.   In reply, Applicant notes despite the fact that Suzuki's power supply controller incorporates a one-chip microcomputer that controls operation *of the power supply controller*, there is simply no support whatsoever for the argument that the microcomputer acts as a driver *for the storage device*, i.e., HDD 19.

In view of the above, it is clear that Suzuki does not anticipate independent claim 1.   Applicant notes that Suzuki similarly does not anticipate limitations contained in Applicant's dependent claims. Applicant discusses some of those claims in the following.

Regarding dependent claim 8, Suzuki does not teach "shutting down the computer" to reduce the temperature of a storage device.   Although, as noted in the Office Action, Suzuki teaches a "stop clock state" in which power consumption of the computer is smallest in column 3, line 66, that state is not a computer shut down.

Regarding dependent claim 9, Suzuki clearly does not teach "first" increasing the speed of a fan contained in the computer and, "if the storage device is later determined to still be too hot", reducing one or both of a clock speed of and a voltage provided to a processor contained in the computer and, "if the storage device is still later determined to be too hot", shutting down the computer. First, as noted above, Suzuki fails to teach shutting down a computer to reduce temperature.   Second, nowhere does Suzuki describe a sequence of steps taken in order based upon temperatures monitored within a computer.   Figure 11 and column 10, line 52 of the Suzuki reference, which were

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identified in the Office Action for support, clearly comprise no teaching of any such sequential process.

2.   Claims 11, 13-15, and 30

Applicant's claim 11 provides as follows (emphasis added):

11.   A method for cooling a storage device contained in a computer, the method comprising:

periodically measuring the temperature of the storage device with a temperature sensor provided in or on the storage device in response to commands received by a storage device driver stored in memory of the computer; and

periodically providing temperature data including the measured temperature and temperature operating parameters for the storage device to a basic input/output system (BIOS) so that the BIOS can control operation of the computer in an effort to cool the storage device.

Regarding independent claim 11, Suzuki does not teach periodically measuring the temperature of the storage device with a temperature sensor "provided in or on the storage device" or measuring the temperature "in response to commands received by a storage device driver stored in memory of the computer" for reasons described above in relation to claim 1.

As a further matter, Suzuki does not teach periodically "providing temperature data including the measured temperature and temperature operating parameters for the storage device to a basic input/output system (BIOS)". Although Suzuki identifies a

BIOS, Applicant notes that Suzuki does not state that the BIOS is provided with temperature data.

Regarding dependent claim 14, Suzuki further does not teach providing temperature data "to a storage device driver of the computer that provides the data to the BIOS". As described above, Suzuki does not even discuss a storage device driver, and further does not describe providing temperature data to the BIOS.

3.   Claims 16, 18, 20, 21, and 31

Applicant's claim 16 provides as follows (emphasis added):

16.   A system for cooling a storage device in a computer, the system comprising:

means provided in or on the storage device for measuring the temperature of the storage device;

means comprising a controller of the storage device for sending the measured temperature; and

means for adjusting operation of the computer in relation to the measured temperature.

Regarding independent claim 16, Suzuki does not teach means "provided in or on the storage device for measuring the temperature of the storage device" or means comprising a "controller of the storage device" for sending the measured temperature for reasons described above in relation to claim 1.

Regarding dependent claim 21, Suzuki at least does not teach shutting down a computer to control a temperature of a storage device, for reasons described above.

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4.   Claims 22, 25, and 32

Applicant's claim 22 provides as follows (emphasis added):

22.   A system stored on a computer-readable medium, the system comprising:

logic stored in memory of the storage device configured to read a temperature of a storage device measured by a temperature sensor provided in or on the storage device;

logic of a storage device driver configured to command the logic configured to read a temperature to read that temperature; and

logic configured to receive the read temperature and to control operation of a computer relative to the read temperature.

Regarding independent claim 22, Suzuki does not teach "logic stored in memory of the storage device" that is "configured to read a temperature of a storage device measured by a temperature sensor provided in or on the storage device". First, as described above, Suzuki does not teach a temperature sensor provided in or on a storage device. Second, Suzuki does not teach any component other than the power supply controller 16 reading a temperature of observed by a temperature sensor. Third, Suzuki says nothing whatsoever about "memory" of a "storage device" or "logic" contained within such a memory.

Furthermore, Suzuki does not teach "logic of a storage device driver configured to command the logic configured to read a temperature". Again, Suzuki does not describe any storage device driver, or that such a driver reads a temperature measured by a temperature sensor.

Regarding dependent claim 25, Applicant again notes that Suzuki does not teach a BIOS that receives a temperature read from a temperature sensor.

II.   Claim Rejections - 35 U.S.C. § 103(a)

Claim 7 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over *Suzuki* in view of *Browning, et al.* ("Browning," U.S. Pat. No. 6,415,388). Applicant respectfully traverses this rejection.

As is identified above, Suzuki does not teach several aspects of Applicant's claims. In that Browning does not remedy the deficiencies of the Suzuki reference, Applicant respectfully submits that claim 7 is allowable over the Suzuki/Browning combination for at least the same reasons that claim 1 is allowable over Suzuki.
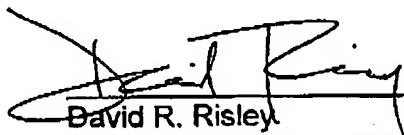
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CONCLUSION

Applicant respectfully submits that Applicant's pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

Respectfully submitted,

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I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being transmitted on the date indicated below via facsimile to the United States Patent and Trademark Office, facsimile number (571) 273-8300.

Date: _____10-31-06_____

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